



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,440	01/25/2002	Uri Mahlab	MAHLAB=2	3860
1444	7590	12/13/2006	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/936,440

Applicant(s)

MAHLAB, URI

Examiner

Agustin Bello

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-64,66-73,76-79,82-84 and 86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-64,66-73,76-79,82-84 and 86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 46 and its dependents are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 46 recites the limitation "the current router" in the newly amended portion of the claim. There is insufficient antecedent basis for this limitation in the claim. Furthermore, there being three routers total in the claim, it is not clear which router the applicant considers as the "current router."

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 45 is rejected under 35 U.S.C. 102(b) as being anticipated by Barnsley (U.S. Patent No. 5,488,501).

Regarding claim 45, Barnsley teaches in a telecommunication system, a method for routing optical data signals using a first communication path (reference numeral 2 in Figure 1) extending between at least two nodes (reference numerals 6, 7 in Figure 1) of the telecommunication system and comprising at least one optical link (e.g. the optical link between

Art Unit: 2613

the output of coupler 7 and the input of optical switch 8 in Figure 1) for carrying optical data signals, and a second communication path (e.g. the optical link between the output of coupler 7 and the input of optical amplifier 15 in Figure 1) extending between at least two nodes of the telecommunication system (reference numerals 7, 15 in Figure 1) and comprising one or more optical links (e.g. the optical links between the output of coupler 7 and the input 16 of optical switch 8 in Figure 1) for carrying optical addressing signals, wherein a combination of said optical addressing signals provides addressing information required for establishing an address for routing the optical data signals (column 1 lines 23-31), and wherein said second communication path comprises one or more optical links (e.g. the optical links between the output of coupler 7 and the input 16 of optical switch 8 in Figure 1) which is at least physically different path from any of the optical links comprised in said first communication path.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 46-47, 53, 55-56, 61, 63-64, 66, 72, 76-79, 82-84, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi (U.S. Patent No. 6,600,583) in view of Barnsley (U.S. Patent No. 5,488,501).

Regarding claim 46, 55, 66 (*as best understood in view of the 35 USC §112 rejection above*), Fatehi teaches in a telecommunication system, a method for routing optical data signals between at least two routers in the system, which method comprises: generating first optical

Art Unit: 2613

addressing signals by converting signals identifying a destination address into corresponding optical addressing signals (reference letters T in Figure 1); transmitting said optical addressing signals over one or more optical addressing links to a next router (reference letter R2 in Figure 1); and concurrently or subsequently transmitting said optical data signals to said next router via an optical data link (column 4 line 61 – column 5 line 7), transmitting to said transmission source an indication that said optical data signals can be forwarded towards their destination (e.g. “acknowledgement” throughout Fatehi); receiving said indication at said transmission source; and transmitting said optical data signals towards said destination along said data transmission path (column 4 line 61 – column 5 line 7). Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that said optical data link being extending from a current router to the next router on at least one partially physically different path from said one or more optical addressing links extending from the current router to the next router. However, as noted in the rejection of claim 45 Barnsley, in the same field of optical communication, teaches that this concept is well known in the art. One skilled in the art would have been motivated to allow the optical data link and the optical addressing link to be on at least partially physically different paths in order to allow the addressing data to be used to route the optical data signals through a switch (abstract of Barnsley). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to allow the optical data link and the optical addressing link to be on at least partially physically different paths.

Regarding claim 47, Fatehi teaches generating new optical addressing signals associated with the next section of a transmission path extending from a current router towards said destination address; transmitting the new optical addressing signals over one or more optical

Art Unit: 2613

addressing links extending between said current router and a next router; transmitting said optical data signals to said next router via an optical data link extending between said current router and said next router; and wherein said one or more optical addressing links is at least partially different from said optical data link (e.g. the addressing link is established via a subcarrier frequency and is therefore at least partially different from the optical data link), repeating the steps of generating new optical signals, transmitting the new optical addressing signals and transmitting said optical data said next router, until said optical data signals are transmitted to said destination address via subsequent routers located along a transmission path extending towards said destination address (column 4 line 61 – column 5 line 7).

Regarding claim 53, 61 Fatehi teaches that the transmission of at least one of the optical data signals is delayed until the following steps are performed; decoding said optical address signals; deriving addressing information from the decoded optical addressing signals; and if required, generating another, or using said, optical routing address for further routing of said optical data signals (column 4 line 61 – column 5 line 7).

Regarding claim 56, Fatehi teaches that indication serves as an acknowledgement in a communication signaling process (e.g. “A” signals in Figure 1).

Regarding claim 63, Fatehi teaches that the indication signal is an optical indication signal (column 4 line 61 – column 5 line 7).

Regarding claim 64 and 79, Fatehi teaches that the indication is an electric indication signal (e.g. once it reaches the other side of the source router R1 in Figure 1).

Regarding claim 72, 76-78, 82-84, 86, Fatehi teaches transmitting optical addressing data to a first network element having routing capabilities (reference numeral R1 in Figure 1);

Art Unit: 2613

assigning an appropriate optical link (reference numeral 101, 104 in Figure 1) connecting said first network element with a second network element (reference numeral R2, R5 in Figure 1) where the assignment is based on the optical addressing data; and transmitting the optical data via the assigned optical link. Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that the optical data link and the optical addressing link are at least partially physically different paths. However, Barnsley, in the same field of optical communication, teaches that this concept is well known in the art. One skilled in the art would have been motivated to allow the optical data link and the optical addressing link to be on at least partially physically different paths in order to allow the addressing data to be used to route the optical data signals through a switch (abstract of Barnsley). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to allow the optical data link and the optical addressing link to be on at least partially physically different paths.

8. Claims 48-52, 54, 57-60, 62, 67-71, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi in view of Barnsley and Nir (U.S. Patent No. 6,160,652).

Regarding claim 48, 67, the combination of Fatehi and Barnsley differs from the claimed invention in that it fails to specifically teach that information extracted from at least one of the optic addressing signals is transmitted at one of two binary illumination states. However, the transmission of binary information is very well known in the art. Furthermore, Nir, in the same field of optical communication, teaches the transmission of optical address signals in different binary illumination states (column 6 lines 23-65). One skilled in the art would have been motivated to employ a binary illumination scheme such as that taught by Nir in order to increase the number of available addresses. Therefore, it would have been obvious to one skilled in the

Art Unit: 2613

art at the time the invention was made to transmit optical address signals in different binary illumination states.

Regarding claim 49, the combination of Fatehi and Barnsley differs from the claimed invention in that it fails to specifically teach that at least one of the optical addressing signals is transmitted at a certain illumination level whereas at least one other optical addressing signal is presented by absence of illumination. However, as discussed regarding claim 48, Nir teaches the transmission of optical address signals in different binary illumination states and further teaches that the optical addressing signals is transmitted at a certain illumination level (e.g. "1" being high) whereas at least one other optical addressing signal is presented by absence of illumination (e.g. "0" being low) (column 6 lines 23-65). One skilled in the art would have been motivated to employ a binary illumination scheme such as that taught by Nir in order to increase the number of available addresses. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit optical address signals in different binary illumination states.

Regarding claims 50-52 and 68-71, the combination of references obviate the ability to transmit the optical addressing signals either on the same wavelength, different wavelength, at the same intensity or different intensities (see addressing tables of Nir indicating different intensities and different wavelengths; e.g. overlap of addressing signals indicated in 302 of Figure 3 of Fatehi). Furthermore, the applicant's claim to a variety of combinations of wavelengths and intensities indicates that this feature is not critical to the invention at hand. Clearly, one skilled in the art would possess the ability to transmit optical signals at different intensities and wavelengths as desired. As such the combination of references obviates the claimed invention.

Art Unit: 2613

Regarding claim 54, 73, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that the transmission of said at least one of the optical data signals is delayed by allowing said at least one of the optical data signals to pass through an optic fiber of a length corresponding to a desired delay in the transmission. However, Nir teaches this limitation (column 2 line 9 –14). One skilled in the art would have been motivated to employ a delay as taught by Nir in order to allow the router to determine the routing action necessary for the data signals while the address signal is processed. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to delay the transmission of a data signal via a delay fiber.

Regarding claim 57-60, Fatehi teaches that different protocol can be employed in the transmission of the optical address signals (column 10 lines 45-55). Furthermore, Nir teaches the IP protocol (column 1 lines 28-35). Furthermore, the protocols listed by the applicant are very well known in the art and well within the realm of knowledge of one skilled in the art. As such, one skilled in the art could have selected which protocol or combination of protocols would be most effective in the system of Fatehi. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ different protocols as taught by Fatehi and Nir as needed throughout the system of Fatehi.

Regarding claim 62, Fatehi teaches that the indication is transmitted along a path different path than the data transmission path (e.g. reverse path as seen in Figure 1).

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. As noted in the newly formed rejection above, Fatehi

Art Unit: 2613

teaches most of the limitations of the claimed invention while Barnsley specifically teaches the independent addressing and data paths.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

A handwritten signature in black ink, appearing to read "A. Bello". The signature is fluid and cursive, with a large initial "A" and a stylized "Bello".

**AGUSTIN BELLO
PRIMARY EXAMINER**